



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,656	06/14/2005	Ulrik Mehr	66722-072-7	7353
25769 7590 12/23/2009 DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005				
EXAMINER				
LE, HUYEN D				
ART UNIT		PAPER NUMBER		
2614				
MAIL DATE		DELIVERY MODE		
12/23/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,656

Applicant(s)

MEHR ET AL.

Examiner

HUYEN D. LE

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 2, 3, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang (U.S. patent 5,357,051).

Regarding claim 7, Hwang teaches a layered structure for connecting terminals of electric devices comprising a substrate (1) which includes two rows of through holes (20), and first and second electric lines (2, 21, 22) forming layers on opposite faces of the substrate (figures 1, 2), wherein each of the first and second electric lines (21, 22) comprises a series of line segments (figures 1, 2, 3, 4) which are sequentially located on opposite faces (10, 10a) of the substrate (1) and electrically connected by respective through holes as claimed (also see col. 2, lines 26-68

through col. 3, lines 1-7). Hwang further shows the through holes (20) connected to opposite ends of the line segments (figures 1, 2, 3, 4).

Hwang does not show that each of the line segments of the first and second electric lines (2, 21, 22) is tapered from opposite ends to a middle area as claimed. However, Hwang does not restrict to any shape for the line segments of the electric lines (2, 21, 22); it therefore would have been obvious to one skilled in the art to provide any shape for the line segments of the electric lines (2, 21, 22) such as the shape that is tapered from opposite ends to a middle area for a design choice or an alternate choice of the same desired purpose of reducing radio frequency interferences.

Hwang does not specifically disclose the line segments of the first and second electric lines (2, 21, 22) being oriented at a right angle as claimed. However, Hwang does estimate and show the line segments of the first and second electric lines (2, 21, 22) on opposite faces of the substrate (1) being oriented a substantially right angle (figures 3, 4). Therefore, it would have been obvious to one skilled in the art to provide the line segments of the first and second electric lines (2, 21, 22) being oriented at any angle such as a right angle depending on the applications and/or the size of the device.

Further, Hwang does not specifically disclose that the through holes (20) are connected to opposite ends of the line segments being positioned to define an imaginary square as claimed. However, Hwang does estimate a square shape that is constituted from the through holes (figures 3, 4).

Therefore, it would have been obvious to one skilled in the art to provide the through holes (20) of the Hwang device being positioned to define any shape such as a square shape or an imaginary square depending on the applications and/or the size of the device.

Regarding claim 2, Hwang shows the square is as small as possible that a maximum number of twists is achieved as claimed (figures 3, 4, 5).

Regarding claim 3, as broadly claimed, Hwang shows the through holes (20) for connecting the line segments through the layer are placed side-by side with no more space there between than is necessary as claimed (figures 3 and 4).

Hwang does not specifically disclose that the line segments of the electric lines (2, 21, 22) are rectilinear. However, Hwang does estimate a substantially straight line of the line segments between the through holes (figures 1, 3, 4).

Therefore, it would have been obvious to one skilled in the art to provide the line segments of the electric lines (2, 21, 22) being rectilinear for a design choice or an alternate choice of the same desired purpose of reducing radio frequency interferences.

Regarding claim 5, Hwang does not teach the combination of the layer structure (1, 2, 21, 22), a hearing aid amplifier and a hearing aid receiver as claimed. However, providing a printed circuit board or a layered structure being connected to an amplifier and a receiver of a hearing aid is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the printed circuit board or the layered structure (1, 2, 21, 22) of Hwang for connecting to an amplifier and a receiver of any electronic or audio devices such as a hearing aid for greater application.

Response to Arguments

3. Applicant's arguments filed 08/31/09 have been fully considered but they are not persuasive.

Responding to the arguments about the limitations of the positioning of the through holes in a square and the line segments (strips 21, 22) which taper from opposite ends to a middle are, the examiner has explained in detail in the Office Action. As mentioned in the Office Action, Hwang does not show that each of the line segments of the first and second electric lines (2, 21, 22) is tapered as claimed in claim 7. However, Hwang does not restrict to any shape for the line segments of the electric lines (2, 21, 22); it therefore would have been obvious to one skilled in the art to provide any shape for the line segments of the electric lines (2, 21, 22) such as each of the line segments is tapered from opposite ends to a middle area for a design choice or an alternate choice of the same desired purpose of reducing radio frequency interferences.

Further, Hwang does not specifically disclose the through holes (20) defining an imaginary square as claimed in claim 7. However, Hwang does estimate a square shape that is constituted from the through holes (figures 3, 4). Therefore, it would have been obvious to one skilled in the art to provide the through holes (20) being positioned to define any shape such as a square shape or an imaginary square depending on the applications and/or the size of the device.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUYEN D. LE/
Primary Examiner, Art Unit 2614

HL
March 26, 2009